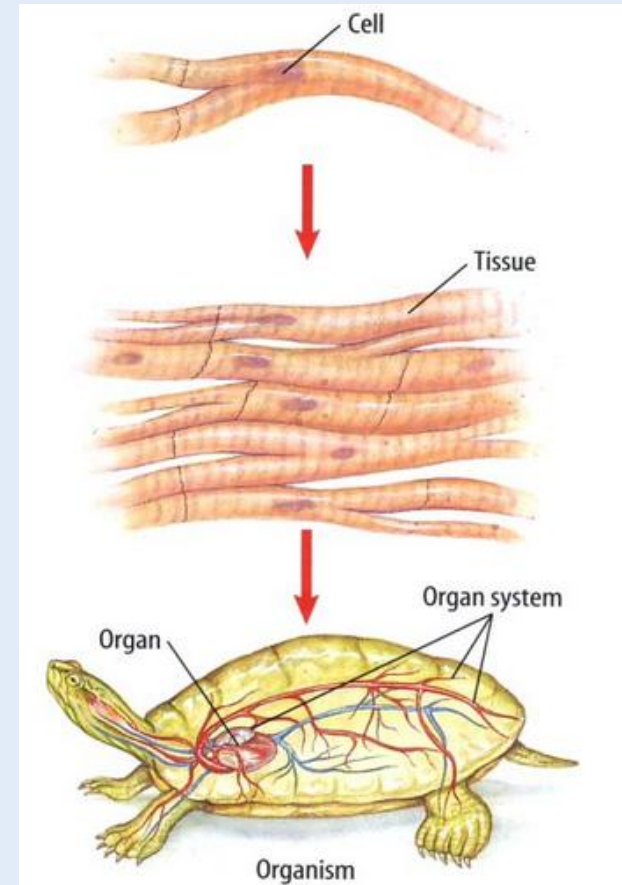
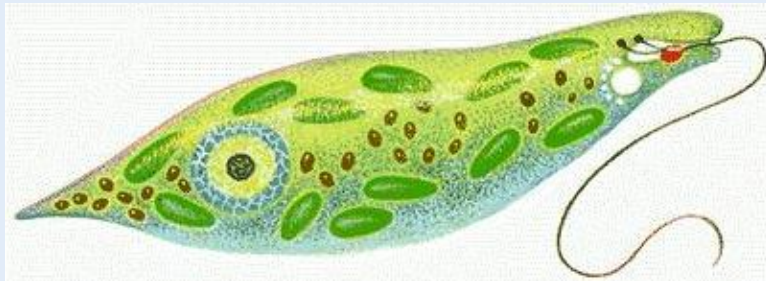


# Unicellular and Multicellular Organisms



**Figure 11** In a many-celled organism, cells are organized into tissues, tissues into organs, organs into systems, and systems into an organism.

# In your science notebook ...

- Title the page “**Unicellular and Multicellular**”
- You will write the definitions and the examples on the next few slides (the words in red)
- Start your page like this:

Unicellular and Multicellular Organisms

How many cells are needed to make a living organism?

Unicellular:

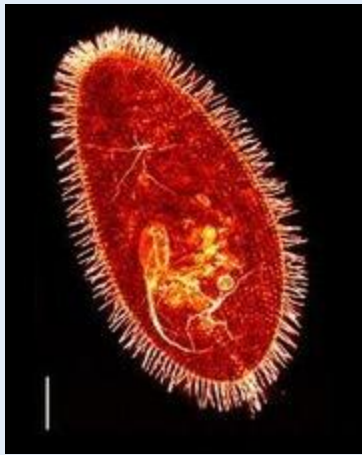
Examples:

Multicellular:

# Fundamental Questions

How many cells are all living organisms are composed of?

- All living organism are composed of one or more cells. They are classified as either **unicellular** or **multicellular** organisms.



Paramecium



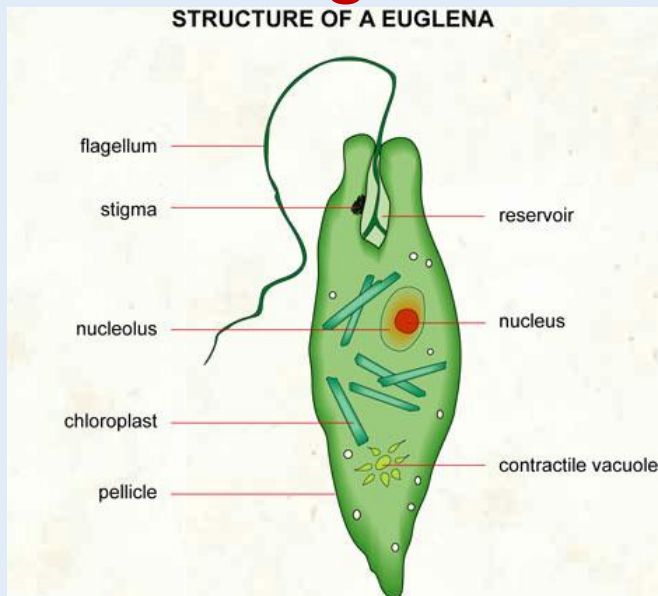
dog

# Unicellular

**Unicellular:** made of only one cell (single-celled organism).

- Examples:

## Euglena



## Paramecium

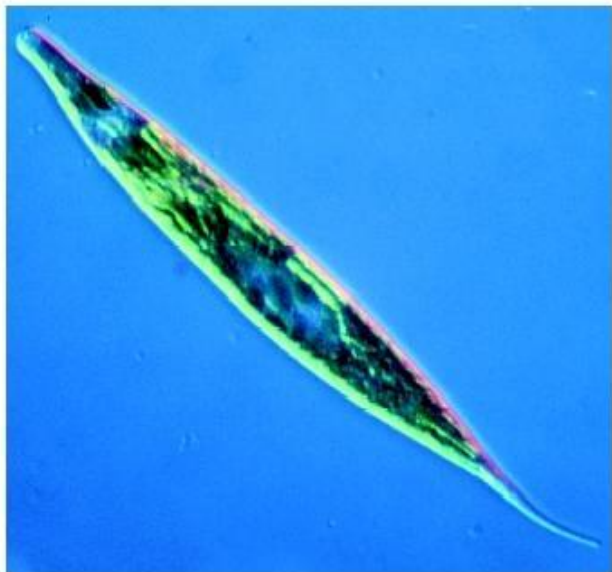


# Examples of Unicellular Life

Unicellular fungi (yeast)



Bacteria



Euglena – a unicellular algae ( a protozoa)

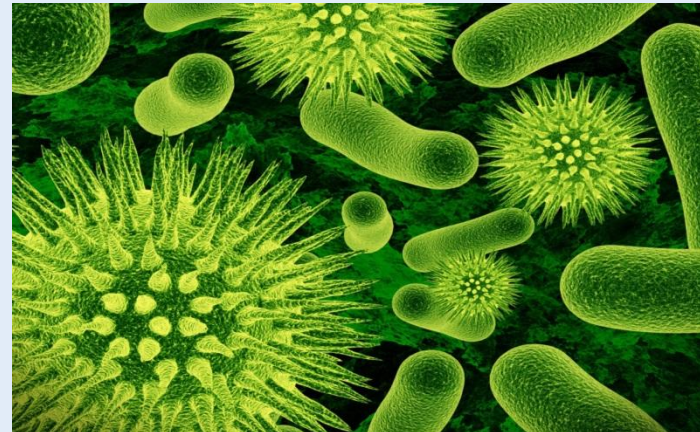
# Unicellular

How they get energy:

1. Eat other organisms
2. Make their own food using chloroplasts like plants
3. Eat decomposed organic material



<http://www.youtube.com/watch?v=pvOz4V699gk>



<http://www.youtube.com/watch?v=a4aZE5FQ284>

# Unicellular

## How they reproduce:

1. **Asexually** through cell division

<http://www.youtube.com/watch?v=DY9DNWcqxI4>

- <http://www.youtube.com/watch?v=5Xi2Nc1UicQ>

## Environment they live in:

1. mainly live in a **watery** environment so they can move around and survive
2. can also live in **extreme environments**

# What are extreme environments?

## 1. Deep sea vents



## 2. VERY salty water



## 3. Geysers



Think about the abiotic factors at work in these extreme environments!



# Multicellular

**Multicellular:** made up of more than one cell

• Examples:

apple tree

manatee

bumblebee



# Multicellular

- These **cells are differentiated** (meaning they have different jobs) in order to perform specific functions

How they get energy:

1. **Autotrophic:** makes its own food
2. **Heterotrophic:** get energy they need by consuming (eating) other organisms



# Multicellular

How they reproduce:

1. **Sexual** (2 parents are needed)
2. **Asexual** (1 parent needed)

<http://www.youtube.com/watch?v=489CSop00sY&list=PL8BA741DBA519C524>

Environment they live in: **almost everywhere in the world**, very few exist in extreme environments.

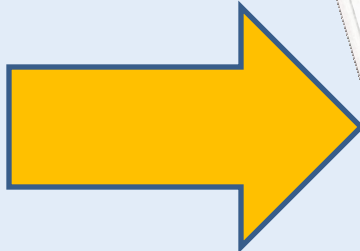


# Examples of Multicellular Life

- Humans, birds, reptiles, amphibians, plants, fungi, insects, etc. – most of the creatures you already know are multi-cellular!



# Check to make sure your notes are complete



①

## How DNA Determines Our Traits

traits = characteristics controlled by genes  
ex: hair color  
eye color  
height  
etc.

- determined by kinds & amounts of proteins we have

DNA = deoxyribonucleic acid / genes made of DNA

contains code for making different proteins

- made of 2 strands of nucleotides
- strands attached to each other by 4 different kinds of bases

Types of bases:

- A } always pair up together
- T } always pair up together
- C } always pair up together
- G } always pair up together

base triplets = the bases arranged in groups of 3 on a strand

nucleotides

Double Helix - the shape of DNA molecule

# Unicellular Organisms

How many cells are all living organisms are composed of?

- All living organism are composed of one or more cells. They are classified as either **unicellular** or **multicellular** organisms.



Paramecium



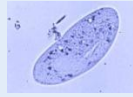
dog

**Unicellular:** made of only one cell (single-celled organism)

- Examples:



Euglena



Paramecium



Bacteria

**How unicellular organisms get energy:**

- Eat other organisms
- Make their own food using chloroplasts like plants
- Eat decomposed organic material

**How unicellular organisms reproduce:**

- Asexually through cell division

**Environment unicellular organisms live in:**

- mainly live in a watery environment so they can move around and survive
- can also live in extreme environments

# Multicellular Organisms

**Multicellular:** made up of more than one cell

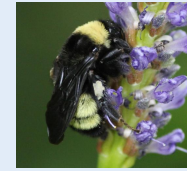
Examples:



apple tree



manatee

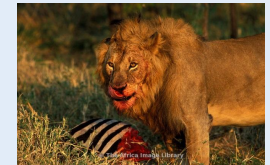


bumblebee

These cells are **differentiated** (meaning they have different jobs) in order to perform specific functions

**How multicellular organisms get energy:**

- Autotrophic: makes its own food
- Heterotrophic: get energy they need by consuming (eating) other organisms



**How multicellular organisms reproduce:**

- Sexual (2 parents are needed)
- Asexual (1 parent needed)

**Environment multicellular organisms live in:** almost everywhere in the world, very few exist in extreme environments

Other examples of multicellular organisms include: humans, birds, reptiles, plants, fungi, insects, etc. – most of the creatures you already know are multi-cellular!